AMENDMENTS TO THE CLAIMS

On page 15, in the first line, please amend the heading as follows:

~~Claims~~

CLAIMS

Claims 1-29 (Canceled)

30. (New) Machine vision equipment for determining at least one physical property of a smoking article, the equipment comprising:

a camera defining a field of view and being adapted to form an image of said article within said field of view, and a processing unit which processes said image to determine at least one physical property of said article;

a first support which supports said article within said field of view at a predetermined distance from said camera;

a second support which supports a reference object having at least one accurately known dimension;

a moving mechanism which selectively moves at least one of the camera, the first support, and the second support such that a reference object placed on the second support is disposed within the camera's field of view at said predetermined distance from said camera;

an adjusting unit which automatically adjusts the configuration of the camera;

a processor which determines the optimum configuration of said camera by processing at least one image of a reference object placed on the second support; and

a controller which controls operation of said moving mechanism, camera, adjusting unit, and processor in order to bring a reference object supported by said second support into the camera's field of view, to image said reference object, to determine the

optimum configuration of the camera, and to adjust the camera to said optimum configuration.

31. (New) Machine vision equipment as claimed in claim 30, wherein said processor is adapted to determine the optimum configuration of the camera by processing a plurality of images of said reference object obtained with said camera in different respective configurations, and said controller is adapted to control said camera, adjusting unit, and processor to obtain and process serial images of said reference object whilst adjusting progressively the configuration of the camera, and to determine the optimum configuration on the basis of said serial images.

32. (New) Machine vision equipment as claimed in claim 31, wherein said adjusting unit is adapted to adjust the focal length of the camera, said processor is arranged to determine optimum focal length, and said controller is adapted to control the adjusting unit, camera, and processor to obtain and process serial images of the reference object at different respective focal lengths, and to determine the optimum focal length at which the reference object is best in focus, and to control the adjusting unit thereafter to adjust the focal length of the camera to said optimum focal length.

33. (New) Machine vision equipment as claimed in claim 30, wherein said second support is configured to support a reference object having substantially the same shape and size in substantially the same orientation in said field of view as said article.

34. (New) Machine vision equipment as claimed in claim 30, wherein said camera comprises a digital camera which is adapted to form said image as a regular array of pixels.

35. (New) Machine vision equipment as claimed in claim 34, wherein said processor is adapted to compare an actual measured value of said at least one dimension of said reference object with said accurately known value, said adjusting unit is adapted to adjust the calibration of said imaging unit, and said controller is configured to control said camera, processor and adjusting unit to measure said at least one dimension of said reference object to obtain a measured value, to compare said measured value with the accurately known value, and to adjust the calibration of the camera accordingly such that the measured value equals the known value.

36. (New) Machine vision equipment as claimed in claim 35, wherein said second support is adapted to support a plurality of reference objects, each having substantially the same shape as said article, but each having a different respective, accurately known value of said at least one dimension; said moving mechanism is adapted to move selectively one or more of the camera, the first support and the second support to bring each reference object in turn into the camera's field of view at the said predetermined distance from the camera; and said processor is adapted to compare the measured value of said at least one dimension of each reference object with the respective accurately known value, and to generate a calibration curve for said camera on the basis of said comparisons.

37. (New) Machine vision equipment as claimed in claim 36, wherein said second support is adapted to support three or more reference objects.

38. (New) Machine vision equipment as claimed in claim 37, wherein each reference object comprises a cylindrical bar of accurately known diameter.

39. (New) Machine vision equipment as claimed in claim 38, wherein said second support comprises at least one holder for holding each reference object, each holder defining a V-shaped cavity which is configured to receive transversely a cylindrical reference bar at the same depth into the cavity regardless of the diameter of the bar.

40. (New) Machine vision equipment as claimed in claim 39, wherein said second support comprises two holders for holding each reference object, one holder at or towards each end of the respective bar.

41. (New) A method of setting-up machine vision equipment, which equipment is arranged to determine at least one physical property of a smoking article, the equipment comprising a camera defining a field of view and being adapted to form an image of said article within said field of view, and a processor which processes said image to determine at least one physical property of said article, and a first support which supports said article at a predetermined distance from said camera within said field of view; said method comprising the steps of:

providing a second support to support at least one reference object;

placing a reference object having at least one accurately known dimension on said second support;

selectively moving at least one of said camera, said first support and said second support, such that said reference object is brought into the camera's field of view at said predetermined distance from said camera;

imaging said reference object to obtain at least one image, and processing said at least one image to determine the optimum configuration of the camera;

and thereafter adjusting the configuration of said camera to said optimum configuration.

42. (New) A method as claimed in claim 41, comprising obtaining and processing a series of images of said reference object whilst adjusting progressively the configuration of the camera, and determining the optimum configuration on the basis of said series of images.

43. (New) A method as claimed in claim 42, comprising adjusting the focal length of the camera while obtaining and processing serial images of the reference object to determine the optimum focal length at which the reference object is best in focus; and thereafter adjusting the focal length of the camera to said optimum focal length.

44. (New) A method as claimed in claim 43, comprising placing on said second support a reference object having substantially the same shape and size in substantially the same orientation in said field of view as the test object.

45. (New) A method as claimed in claim 41, wherein said camera comprises a digital camera which is adapted to form said image as a regular array of pixels.

46. (New) A method as claimed in claim 41, comprising obtaining an image of said reference object and measuring said at least one dimension, comparing the measured value of said dimension with the accurately known value, and thereafter adjusting the calibration of the camera such that the measured value substantially equals the known value.

47. (New) A method as claimed in claim 46, comprising supporting a plurality of reference objects on said second support, each reference object having substantially the same shape as said article, but each having a different respective, accurately known value of said at least one dimension, selectively moving at least one of the camera, the first support and the second support to bring each reference object in turn into the camera's field of view at the said predetermined distance from the camera, comparing the measured value of said at least one dimension of each reference object with the respective accurately known value, and generating a calibration curve for said camera on the basis of said comparisons.

48. (New) A method as claimed in claim 47, comprising supporting three reference objects on the second support, and imaging those reference objects to produce a calibration curve based on three points.

49. (New) A method as claimed in claim 48, wherein each reference object comprises a cylindrical bar of accurately known diameter.

50. (New) A method as claimed in claim 49 comprising supporting each reference object on least one respective holder, said holder defining a V-shaped cavity which is configured to receive a transverse cylindrical reference bar at the same depth into the cavity regardless of the diameter of the bar.

51. (New) A method as claimed in 50, wherein said second support comprises two holders for holding each reference object, one holder at or towards each end of the respective bar.